IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method for generating a spot for use in halftoning, comprising:

defining a spot function that combines two functions selected to provide asymmetrically changing of the shape of a spot for use in a halftone cell;

scaling the spot function according to grayscale levels using a parameterized spot radius scaling function that varies according to a value of a first and second spot function ordinate and an asymmetric shape changing scaling function based on a gray level for the spot, and

printing using the scaled spot function;

wherein the spot function is described by:

$$f(x,y)=\frac{1}{2}\left(\cos(\pi x/p_x)+\frac{1}{S(p,r)}\cos(\pi y/p_y)\right)$$

where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling function, and r is the radius of the spot.

2. (Previously Presented) The method of claim 1, wherein the two functions allow non-separable changes in spot shape.

3. (Canceled)

4. (Canceled) .

5. (Previously Presented) The method of claim 1, wherein the scaling function, S(p,r), is described by:

$$S(p,r) = 1 + \frac{1}{p_m\sqrt{2\pi}} \exp\left(-\frac{\left(r/\sqrt{2} - 1/2\right)^2}{2p^2} \right),$$

where p_m sets a maximum ellipticity of the spot.

6. (Canceled)

7. (Previously Presented) A printing system, comprising:

a control unit for receiving a print file and processing the print file for printing;

a print head for conveying a print job according to the print file; and

a device for generating a spot for use in halftoning wherein the halftoning reproduces an image defined by the print file using the print head, the device defines a spot function that combines two functions selected to provide asymmetrically changing of the shape of a spot for use in a halftone cell and scales the spot function according to grayscale level using a parameterized spot radius scaling function that varies according to a value of a first and second spot function ordinate and an asymmetric shape changing scaling function based on a gray level for the spot,

wherein the spot function used by the device is described by:

$$f(x,y)=\frac{1}{2}\left(\cos\left(\pi x/p_x\right)+\frac{1}{S(p,r)}\cos\left(\pi y/p_y\right)\right)$$

where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling function, and r is the radius of the spot.

8. (Previously Presented) The printing system of claim 7, wherein the two functions allow non-separable changes in spot shape.

9. (Canceled)

10. (Canceled)

11. (Previously Presented) The printing system of claim 7, wherein the scaling function, S(p,r), is described by:

$$S(p,r) = 1 + \frac{1}{p_m\sqrt{2\pi}} \exp\left(-\frac{\left(r/\sqrt{2} - 1/2\right)^2}{2p^2} \right),$$

where p_m sets a maximum ellipticity of the spot.

12. (Canceled)

13. (Previously Presented) The printing system of claim 7, wherein the device is a hardware card disposed between the control unit and the print head.

14. (Previously Presented) The printing system of claim 7, wherein the device is a hardware card disposed within the control unit.

15-16. (Canceled)

17. (Previously Presented) A program storage medium readable by a computer, the medium tangibly embodying one or more programs of instructions executable by the computer to perform halftoning an image by:

defining a spot function that combines two functions selected to provide asymmetrically changing of the shape of a spot for use in a halftone cell;

scaling the spot function according to grayscale level using a parameterized spot radius scaling function that varies according to a value of a first and second spot function ordinate and an asymmetric shape changing scaling function based on a gray level for the spot, and

printing using the scaled spot function;

wherein the spot function is described by:

$$f(x,y)=\frac{1}{2}\left(\cos(\pi x/p_x)+\frac{1}{S(p,r)}\cos(\pi y/p_y)\right)$$

where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling function, and r is the radius of the spot.

18. (Currently Amended) The program storage ~~device~~ medium of claim 17, wherein the two functions allow non-separable changes in spot shape.

19. (Canceled)

20. (Canceled)

21. (Currently Amended) The program storage ~~device~~ medium of claim 17, wherein the scaling function, S(p,r), is described by:

$$S(p,r) = 1 + \frac{1}{p_m\sqrt{2\pi}} \exp\left(-\frac{\left(r/\sqrt{2} - 1/2\right)^2}{2p^2} \right),$$

where p_m sets a maximum ellipticity of the spot.

22. (Canceled)

23. (Previously Presented) A printing system, comprising:

means for receiving a print file and processing the print file for printing;

means for conveying a print job according to the print file; and

means for generating a spot for use in halftoning wherein the halftoning reproduces an image defined by the print file using the print head, the means for generating a spot defines a spot function that combines two functions selected to provide asymmetrically changing of the shape of a spot for use in a halftone cell and scales the spot function according to grayscale level using a parameterized spot radius scaling function that varies according to a value of a first and second spot function ordinate and an asymmetric shape changing scaling function based on a gray level for the spot,

wherein the spot function is described by:

$$f(x,y)=\frac{1}{2}\left(\cos(\pi x/p_x)+\frac{1}{S(p,r)}\cos(\pi y/p_y)\right)$$

where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling function, and r is the radius of the spot.